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ENVIRONMENTAL PROTECTION AGENCY (EPA)
Clean Diesel Funding Assistance Program
FY 2017 Request for Proposals (RFP)
EPA-OAR-OTAQ-17-04

Proposal submission contact:

U.S. EPA Region 9
75 Hawthorne Street, AIR-9
San Francisco, CA 94105

Project Title: Bay Area Air Quality Management District Locomotive Replacement Project

Applicant Information:

Applicant Name:	Bay Area Air Quality Management District (Air District)
Address:	375 Beale Street, Suite 600, San Francisco, CA 94105
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DUNS Number:	07-878-1416

Eligible Entity: The Air District is an eligible entity because it is a regional agency with jurisdiction over air quality.

Regional Office: The Air District is submitting this proposal for activities in U.S. EPA Region 9.

Costs:

Total Project Cost:	\$2,571,462
EPA Funds Requested:	\$639,670
Mandatory Match:	\$1,875,000
Voluntary Cost Share:	\$56,792

Target fleet - Rail: The project will target one switcher locomotive operating in goods movement service in a highly impacted Bay Area community.

Technology – Locomotive replacement: The project will replace one uncontrolled, high polluting, switcher locomotive with a low emission Tier 4 locomotive.

Environmental justice area: The proposed project would be implemented in an Environmental Justice area.

Short project description: Replace one uncontrolled switcher locomotive with one Tier 4 locomotive.

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

SECTION 1: PROJECT SUMMARY/APPROACH

The Air District proposes to use \$639,670 in Clean Diesel Funding Assistance Program funds to replace one switcher locomotive that operates in goods movement activities in West Oakland, California. The Air District has selected this project because it is highly cost-effective and achieves significant emission reductions in one of the most highly impacted communities in the Bay Area.

A. VEHICLES AND TECHNOLOGIES

The Air District is requesting Clean Diesel Funding Assistance Program (CDFAP) funding to help replace one uncontrolled diesel-powered locomotive operating in West Oakland, California with a new locomotive with a Tier 4 certified engine. The locomotive is used in goods movement service. A switcher locomotive is a small railroad locomotive used for moving railroad cars around at the railyard, either assembling or disassembling trains that are leaving or arriving at a railyard. The locomotive is owned and operated by Oakland Rail Global Enterprise, LLC¹ (OGRE). OGRE will own and operate the new locomotive. The existing locomotive operates more than 1,000 hours per year in densely populated areas that is a major center for freight movement and near some of the Bay Area communities most impacted by air pollution. The replacement of this locomotive would not have occurred through normal attrition or fleet turnover as evidenced by its advanced age, having been built in 1980, nor is it being replaced due to mandated measures.

The proposed project will achieve a significant reduction in diesel emissions by supporting the cleanest available technologies. The locomotive purchased will have engine(s) certified by both the U.S. EPA and the California Air Resources Board (ARB) to meet or exceed Tier 4 locomotive engine emissions standards. Tier 4 locomotive engine technology was selected for this proposal because it's the cleanest certified equipment available. The Tier 4 engines are about 90% cleaner (NOx and PM) than the equipment currently in service.

B. ROLES AND RESPONSABILITIES

Bay Area Air Quality Management District - The Air District will contract directly with OGRE (sub-awardee) for the replacement of one locomotive. The contract will include the CDFAP project equipment requirements, project schedule, and payment details for the project. It will be the responsibility of the locomotive owner to work with the equipment vendor of their choice to identify and procure equipment that meets the U.S. EPA Tier 4 locomotive engine emissions standards (or cleaner). Attachment 6 provides a detailed description of the Tier 4 technology that the locomotive operators are considering. In addition to contracting with the locomotive owners, the Air District will monitor progress of the project, verify equipment eligibility, inspect the equipment, inspect and document the scrapping of the locomotive to be replaced, review invoices, process payments, and report to the EPA on the status of the project. The Air District will also provide some in-kind staffing support to ensure the successful completion of this project. The Air District's commitment to this project is further described in the commitment letter included as **Attachment 5**.

Oakland Global Rail Enterprise, LLC (OGRE) - OGRE is a newly created Class III, Surface Transportation Board certified short line rail company that is currently operating in Oakland, CA at the former Oakland Army Base. OGRE is comprised of two Oakland based and Port of Oakland certified local businesses -- West Oakland Pacific Railroad (WOPR) and California Capital & Investment Group (CCIG). OGRE currently holds the contract with UPRR and BNSF for switching rights at the Port of Oakland, a service that was formerly provided under Oakland Terminal Railway, a joint venture between UPRR and BNSF. The sole managing member of OGRE is Industrial Railway Company, which is the oldest continually-operating railroad construction contractor in existence throughout Northern California and Nevada, as well as the largest rail user at the Port of Oakland -- handling international cargo that goes from railcar to sea container and vice versa. The OGRE currently moves beet pulp pellets, distiller's dried grains (DDGS), steel plate, steel grinding balls, gold-copper concentrate, corn meal, soy meal, flax meal, malt sprouts, corn gluten feed, railroad ties, railroad rail, switch gear, and lumber.

OGRE members offer years of rail design, operation, and experience to augment the development planned at the former OAB by enhancing business relationships and maritime activity. As an Oakland-based enterprise whose majority interests are held by certified local businesses, OGRE is committed to achieve local hiring and community benefit requirements related to Port and City developments at the OAB while integrating environmental stewardship.

OGRE currently owns and operates one switcher locomotive. The locomotive proposed for replacement has a 1600 hp, Tier 0, diesel-powered EMD 567D model engine. The proposed project will be a part of a fleet upgrade project that will replace one of the oldest switchers with a newer, cleaner, Tier 4 locomotive. OGRE will scrap the existing locomotive that will be taken out of service and retain ownership of the Tier 4 locomotive included in this proposal.

¹ Oakland Global Rail Enterprise, LLC. website: <http://ogrejv.com/>

The replacement of this locomotive would not have occurred through normal attrition as part of the OGRE normal fleet turnover, and there are no local, state or federal regulations or mandates that require this locomotive to be replaced or upgraded.

C. TIMELINE AND MILESTONES

Table 1, describes the proposed schedule and milestones for this project.

Table 1 – Proposed project schedule

Activity	Responsible Party	Estimated Start and Completion Date
Air District submits application	Air District	By 6/20/17
EPA Announces recommended awards	EPA	August – September 2017
Execution of Grant Agreement between Air District and EPA	EPA / Air District	October – December 2017
Air District Board Action, if necessary	Air District	By December 2017
Quarterly report to EPA summarizing technical progress, planned activities for the next quarter and a summary of expenditures.	Air District	January 30, April 30, July 30 & October 30 through the end of the contract
Air District locomotive pre-inspection to assure existing locomotive meets all eligibility requirements.	Air District / Locomotive owners	By 12/31/17
Locomotive obligation deadline (all contracts must be signed).	Air District / Locomotive owners	By 12/31/17
Locomotive post-inspection period and payment of invoices for locomotive after it passes post-inspection in conformity with Air District/Grantee contract.	Air District / Locomotive owners	By 12/30/19
CDFAP Project completion deadline	Air District / Locomotive owners	By 12/30/19
CDFAP Final report deadline	Air District	3/30/20
Annual status reports due to Air District from locomotive owners over the project life (15 years)	Air District	Due annually between 2/1/20 and 2/1/35

SECTION 2. PROJECT LOCATION

In 2004, the Air District initiated the Community Air Risk Evaluation (CARE) program² to intensify efforts to reduce air pollution in areas with the greatest air pollution burdens and with the most vulnerable populations. The goals of the CARE program parallel recent California and federal legislation that require their respective environmental agencies to address the disproportionate adverse health effects pollution can have on minority and low-income populations.

Through the CARE program, the Air District has worked to identify communities most adversely impacted by air pollution. Once a community is identified as impacted, the Air District focuses grants, enforcement programs, local scale studies, and other activities to help reduce pollution exposures within the community. Through the CARE program, an initial effort completed in 2009 identified areas as impacted by air pollution if they had relatively high emissions of toxic air contaminants, relatively high exposures of youth and seniors to toxic air contaminants, and relatively high levels of poverty. In March 2014, the Air District released an analysis of regional pollutants, “*Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area.*”³ This report presents an updated methodology for identifying communities impacted by air pollution. The new methodology considers multiple air pollutants, as well as local mortality and morbidity health data. The equipment for this project operates 100% of the time in designated CARE areas.

² Air District CARE Program webpage: <http://www.baaqmd.gov/plans-and-climate/community-air-risk-evaluation-care-program>

³ Identifying Areas with Cumulative Impacts from Air Pollution in the San Francisco Bay Area, March 2014: http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CARE%20Program/Documents/ImpactCommunities_2_Methodology.ashx?la=en

A. PROJECT LOCATION

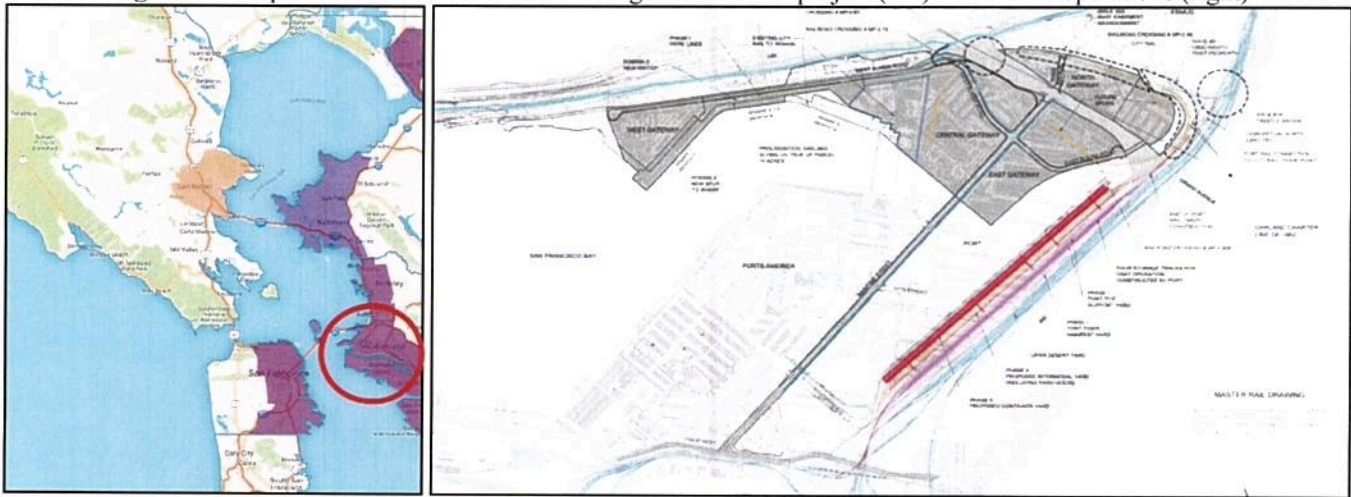
A detailed description of the San Francisco Bay Area's air quality and attainment status can be found on the Air District website⁴. The OGRE locomotive being replaced operates 100% of the time in Oakland, CA located in Alameda County. The 2017 U.S. EPA Priority County and Area information for this location is shown in **Table 2**.

Table 2 – 2017 U.S. EPA Priority County and Area List data for OGRE

State	County	2008 Ozone	2012 PM 2.5	2006 PM 2.5	1997 PM 2.5	2011 NATA PM
CA	Alameda	X		X		X

Figure 1 shows a map of the OGRE operations and a regional map of the Air District's CARE program designation for the project area which has been identified as one of the areas most impacted by air pollution in the San Francisco Bay Area. In addition to the Air District's CARE analysis, the project locations were analyzed using the EPA environmental justice mapping and screening tool EJSCREEN that provides a nationally consistent dataset and approach for combining environmental and demographic indicators. Attachment 1 is the EPA EJSCREEN report for the OGRE project location.

Figure 1 – Maps of Air District CARE area designation for this project (left) and OGRE operations (right)



B. NON-ATTAINMENT & AIR TOXICS ASSESSMENT AREA ANALYSIS

The county for the proposed project is included in CDFAP 2017 Priority Counties List. A total of nine counties in the San Francisco Bay Area are classified as non-attainment for the 8-Hr Ozone 2008 standard, affecting a population of 6,973,020 (2010 EPA data). The San Francisco Bay Area (0.080 ppm design value) exceeds this national standard for attainment in Ozone (0.075 ppm). For Particulate Matter 2.5, the San Francisco Bay Area was classified as non-attainment for the 2006 standards with a design value of 36 ug/m3. **Table 3** summarizes the county air quality analysis for this project. The locomotive owner will operate the funded equipment 100% of the time in Alameda county where residents are exposed to more than 2.0 ug/m3 of diesel particulate matter emissions.

Table 3 – County air quality status^{5,6} for the project location

Locomotive operator	County	Air Quality Standards and Attainment Status (by pollutant)				
		2008 Ozone 8-hr (ppm)	2012 PM 2.5 Annual	2006 PM 2.5 24-hr (ug/m3)	1997 PM 2.5 Annual	2011 NATA Diesel PM
OGRE	Alameda County	Marginal Non-attainment (.08)	Attainment	Moderate Non-attainment (36)	Attainment	Non-attainment

⁴ Air District air quality standards and attainment status: <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>

⁵ EPA, "The Green Book Nonattainment Areas for Criteria Pollutants": <https://www.epa.gov/green-book>

⁶ EPA, "2011 National Air Toxics Assessment": <https://www.epa.gov/national-air-toxics-assessment/2011-national-air-toxics-assessment>

SECTION 3. PROJECT SECTOR

A. Priority Sector - The locomotive is owned and operated by OGRE. OGRE has been operating at the Port of Oakland on the former Oakland Army Base since 2012. OGRE owns 1 locomotive and moves approximately 600-900 carloads a year of agricultural and industrial products. The OGRE currently moves beet pulp pellets, DDGs, steel plate, steel grinding balls, gold-copper concentrate, corn meal, soy meal, flax meal, malt sprouts, corn gluten feed, railroad ties, railroad rail, switch gear, and lumber.

B. Goods Movement - As stated in the section above, the locomotive will be located at a seaport, Port of Oakland, where it will be involved with goods movements between the port, Union Pacific and Burlington Northern Santa Fe railroads they service, terminals, and nearby distribution centers. The locomotive owned and operated by OGRE will be located at and service goods movement at the Port of Oakland 100% of the time. The locomotive is expected to get more use in the near future as operations at the Port of Oakland and former Oakland Army Base increase. Recent usage has been low, but increasing as port volumes increase in post-recession. As the Oakland Army Base and the Port complete their current development and expansion projects, the volumes will continue to rise to the estimated usage shown in Table 4. Therefore, it is critical to get the cleanest possible equipment operating in this area. **Table 4** shows the locomotive's annual fuel consumption since 2015 and the projected fuel use to 2020.

Table 4 – Historical and projected annual OGRE locomotive fuel consumption

Year	2015	2016	2017	2018	2019	2020
Annual fuel use (gal)	4,642	6,703	3,900 (ytd) <i>Est. 10,000</i>	<i>Est. 12,000</i>	<i>Est. 17,000</i>	<i>Est. 21,000</i>

SECTION 4. BENEFITS TO THE COMMUNITY

Based on the results of the CARE program (described above), the Air District identified the West Oakland community as being disproportionately impacted by diesel PM. One of the key findings of the CARE program is a clear correlation between the Pollution-Vulnerability Index (PVI) and socioeconomic factors, such as income, race, and education levels. The PVI is a metric used to quantify the combined impacts of cancer risk from Toxic Air Contaminants (TAC), mortality rates from fine particulates, ozone levels above background, and health costs for emergency room visits and hospitalizations for illnesses related to fine particles and ozone levels above background. This community is disproportionately impacted as was determined in our CARE program and will benefit directly and immediately from the replacement of the very old, and high-polluting locomotive with a new, low-emitting, state of the art locomotive.

Outside of on-road trucks, which comprise the majority of health risk in these communities, one of the highest drivers of that risk is locomotive operations at the rail-yards. The railyard is located in a federally defined poverty area and identified as having high emission sources and exposures in the top 25% in the Bay Area. The proposed project will immediately reduce diesel PM emissions from one OGRE locomotive that operates within this community.

Following a successful deployment, this technology can also be applied to other locomotives operating in Bay Area rail fleets with the potential for further immediate emissions reductions. Since railyards, like this one, are often located in highly impacted areas, reducing the exposure to air toxics through the demonstration and verification of this technology will provide a great benefit for public health and the environment.

SECTION 5. COMMUNITY ENGAGEMENT AND PARTNERSHIPS

The Air District takes its responsibility for community engagement very seriously and to improve its performance in this area published the *Bay Area Air District Public Participation Plan* (Plan). The Plan is included as Attachment 4 and provides background information on the Air District, identifies air pollution sources we regulate and monitor, and describes how to engage the Air District. The Plan and the Air District's public participation efforts are directed toward helping Bay Area residents, businesses, local governments, and other interested parties understand air quality and how to engage the Air District to improve air quality in the region. The Plan lists 35 projects and plans that illustrate some of the ways in which the Air District program staff engages with communities.

The Air District has sought to engage the Oakland communities surrounding this project by notifying community groups about this application and the health benefits that would result from the funding and implementation of this project. Community support for this project has been very strong and we have received no comments from the community that would alter the design or the performance of the project from what is being proposed. **Table 5** provides a list of the letters of support received for this project. These letters can be found in Attachment 2.

Table 5 – Project support letters attached to this application

Oakland Global Rail Enterprise, LLC	Alameda County Health Services
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Port of Oakland	Regional Asthma Management and Prevention (RAMP)
City of Oakland	East Bay Clean Cities Coalition

SECTION 6. PROJECT SUSTAINABILITY

Projects funded under this proposal meet the EPA Restriction for Mandated Measures. This locomotive replacement project will be purchased and operational prior to any federal regulatory requirement for any applicable adopted rule in compliance with 42 U.S.C. 16132(d)(2). The project equipment will be under contract with the Air District until it operates for 15 years. Based on the age of the existing locomotives in the fleet, it is reasonable to assume that the locomotive will continue in this service beyond the completion of the project term. This project is in line with the goals of several regional and statewide planning efforts to develop a more sustainable freight system, and will help achieve much needed reductions in criteria pollutants and air toxics.

The existing OGRE locomotive is exempt from mandates under the EPA rule for the “*Control of Emissions of Air Pollution from Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder.*” The locomotive’s operations are considered Class III railroads and under EPA ruling, “*Class III railroads are exempt from the remanufacture standards for existing fleets. The rule limits the category of small railroads which are exempt from the Tier 0, 1, and 2 remanufacturing requirements for existing fleets to those railroads that qualify as Class III railroads and that are not owned by a large parent company. Under the current Surface Transportation Board classification system, this exemption is limited to railroads having total revenue less than \$38,060,384 per year in 2014.*”

SECTION 7. ENVIRONMENTAL RESULTS—OUTPUTS, OUTCOMES AND PERFORMANCE MEASURES

A. Outputs and Outcomes

Achievement of Significant Diesel Emission Reductions: Emissions from the locomotive engine contribute to local, regional, and global air pollution. The diesel pollution from goods movement operations greatly impacts the health of community residents near ports, rail yards, distribution centers, and roads with high truck traffic. In fact, the Bay Area is subject to 20% of the total particulate emissions generated by goods movement in the State of California. These diesel emissions are also a major cause of the high regional ozone and fine particle levels that harm Californians and especially many of the 7.1 million Bay Area residents that live in dense urban areas in proximity to major highways and centers of freight movement activity. In the Bay Area, locomotive operations contribute significantly to high localized health risks. Locomotive activity has been identified by a health risk assessment⁷ (HRA), performed jointly by the Air District and ARB, as being a major contributor to toxic diesel particulate matter emissions (DPM). In fact, these communities are subjected to some of the worst air quality in the region and in California, and currently have a cancer health risk as much as three times the Bay Area average as a direct impact of goods movement activities. This project will help further the goals of the EPA FY 2014-2018 Strategic Plan⁸ related to Goal #1, addressing climate change and improving air quality.

The proposed project would augment the Air District’s implementation of several of the Air District’s voluntary incentive programs that seek to reduce air pollution and achieve the earliest possible health risk reduction for communities heavily impacted by diesel emissions. These programs augment a suite of measures including education, monitoring, and regulatory actions that also target diesel emissions reductions.

The Air District uses incentive programs as one of its primary mechanism to reduce health impacts of diesel particulate matter in highly impacted communities that have been identified by its CARE Program. Additionally, these programs can only fund emission reductions “not otherwise required by law or regulation” which allows the Air District to attain additional emission reductions over and above those required by regulation. Key pollutants targeted by these programs include DPM, and oxides of nitrogen (NOx) that contribute to the formation of both PM2.5 and ozone. The projects funded under these programs and this project would also provide co-benefits by reducing greenhouse gases and black carbon emissions that contribute to climate change.

Based on information contained in the HRA, the Air District anticipates achieving a further reduction of premature deaths, lost workdays, restricted work activity days, and school absence days attributed to exposure to DPM emissions. The sustained reduction in the cancer health risk associated with the operation of this locomotive is a minimum of 15 years, and most probably much longer. Accelerating locomotive turnover will ultimately lead to the creation of manufacturing jobs and a cleaner, healthier, safer, more efficient and cost-competitive transportation system necessary for goods movement. The Air

⁷ ARB Health risk assessment, “Health Risk Assessment for the Union Pacific Railroad Oakland Railyard”, April 22, 2008. https://www.arb.ca.gov/railyard/hra/up_oak_hra.pdf

⁸ EPA Fiscal Year 2014-2018 Strategic Plan, April 10, 2014: <https://www.epa.gov/planandbudget/strategicplan>

District plans to monitor and track progress towards these goals through its annual reports, program audits, input from local communities and health departments, ambient air monitoring, review by the Air District CARE program, and the ARB.

Activities: This project will replace one switcher locomotive with a new Tier 4 engine locomotive.

Outputs: By the close of the project the Air District will have:

- Leveraged CDFAP funds with Air District grant funds, private funds, and in-kind resources from the project partners.
- Placed into service one of the cleanest switcher locomotives available.
- Issued grant agreements for one locomotive replacement.
- Performed one pre- and post-project inspections.
- Monitored the equipment operations and status through project post inspections, audits, and annual reporting.
- Dispersed \$639,670 in requested CDFAP project funds.

Outcomes: Intermediate project outcomes include:

- Replacement of one switcher locomotive with a new locomotive with a Tier 4 engine.
- Increased understanding in the locomotive industry of the environmental benefits of accelerated locomotive replacement in protecting employee and community health and the environment, and of the cost benefits of reducing fuel costs via new equipment.
- Increased acceptance of newer locomotive technology through results publication on the Air District website, in trade publications, and the media.
- Reduced criteria pollutant and greenhouse gas emissions, and fuel usage.
- Reduced black carbon emissions and approximately 0.1217 tons of toxic DPM reductions annually that will benefit global climate and public health (see **Table 6** below).
- Support of EPA National Programmatic Priorities.
- The technology funded as part of this project is also expected to operate with better fuel economy. This benefit was not included in the U.S. EPA Diesel Emission Quantifier (DEQ)⁹ analysis shown in **Table 6**.

Table 6 – U.S. EPA DEQ Emissions Reduced and Cost Effectiveness

	Emissions reductions			
	NOx	PM _{2.5}	HC	CO
Tons of reductions per year	5.6146	0.1217	0.286	0
Lifetime reductions (tons)	117.9073	2.5562	6.007	0
Capital Cost-effectiveness (\$/ ton)	\$21,203.11	\$978,004.88	\$416,177.79	\$0

B. Performance Measures

The Air District will administer the project which shall include oversight of project partners with a minimum of monthly calls or meetings to discuss progress on the project. The Air District, with the input of its partners, will prepare quarterly reports for submission to the EPA, providing a narrative of the accomplishments of the previous quarter, any alterations in the project, changes to keep the project on schedule, and invoices for payment by the EPA, as well as an accounting of match funding commitments that have been met during the quarter. These reports will be compared with the original outputs/outcomes and proposed timelines/milestones in this proposal. Any discrepancies between the two shall be reported to the EPA and where these metrics are less than projected in this proposal, the Air District will propose alternative means to achieve the proposed results.

The Air District will monitor the performance of this project on numerous levels. First, the Air District will monitor the implementation of the project so that the new locomotive is deployed within the project schedule and the emission reduction benefits to the communities occur as quickly as is practical. The performance of the locomotive will also be monitored to determine that the expected emission reductions from the project are achieved. The Air District will also continue to monitor and model emissions in the vicinity of the project to ascertain the actual emission reductions and reduced cancer risks and rates, in accordance with the Air District's CARE program.

SECTION 8. PROGRAMMATIC CAPABILITY AND PAST PERFORMANCE

A. PAST PERFORMANCE

Table 7 - Nine U.S. EPA grant agreements entered into by the Air District since 2007

Project Title	Assistance Agreement #	Funding Agency	CFDA #	Status
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⁹ EPA Diesel Emission Quantifier (DEQ) - <https://www.epa.gov/cleandiesel/diesel-emissions-quantifier-deq>

ARRA National Clean Diesel Program	2A-00T13701-0	EPA	81.502	The Air District has successfully completed this project in conjunction with the Year 1 ARB Goods Movement Program. EPA granted the Air District \$2 million to replace 22 heavy-duty drayage trucks and retrofit 88 drayage trucks operating at the Port of Oakland.
Air Pollution Control Program	A-00905606 A-00905607 A-00905608	EPA	66-001	The EPA provided the Air District with approximately \$1.2 million per year over three years to provide continuing support for activities which include strategic planning and evaluation, compliance assistance, developing state implementation plans, air monitoring, rulemaking, operating permits, and all other program related activities. The Air District has successfully completed this project.
DERA National Clean Diesel Program	DE-00T77901	EPA	66-039	The Air District has successfully completed this project in conjunction with the Year 3 ARB Goods Movement Program. EPA granted the Air District \$1.5 million to replace 43 heavy-duty drayage trucks operating at the Port of Oakland.
DERA National Clean Diesel Program	DE – 00T96101	EPA	66-039	The Air District has successfully completed this project in conjunction with the Year 3 ARB Goods Movement Program. EPA granted the Air District \$898,000 to replace 22 heavy-duty drayage trucks operating at the Port of Oakland.
PM 2.5 Monitoring Network	PM-97993201-3 PM-97993201 PM-98977301	EPA	66-034	The EPA provided the Air District with approximately \$330,000 per year over three years to monitor fine particulate matter with the diameter equal to or smaller than 2.5 µm in order to determine compliance with the national ambient air quality standards and determine reductions in air emissions.
National Air Toxics Trends Site (NATTS)	XA-00T63001	EPA	66-034	The EPA provided the Air District with approximately \$150,000 per year over five years to monitor the ambient concentration of air toxic compounds and address the needs of the ambient air monitoring community in San Jose.
Near Roadway Monitoring Grant	XA-00T83001	EPA	66-034	EPA granted the Air District \$600,000 to develop and locate a monitoring station as part of the near-roadway monitoring network development along the Interstate 80 corridor in the Berkley/Bay Bridge area.
Lead NAAQA Airport Study	XA-00T76401	EPA	66-034	The Air District has successfully completed this project to monitor lead at Palo Alto Airport, Reid-Hillview Airport, and San Carlos Airport. EPA granted the Air District \$322,264 to determine lead emission levels associated with piston-driven aircraft.
DERA National Clean Diesel Program	DE-99T42401	EPA	66-039	The Air District is in the process of implementing a \$1,420,263 2016 DERA award to replace three diesel locomotives with newer, cleaner locomotives with Tier 4 engines.

B. REPORTING REQUIREMENTS

Completion and Management of Agreements – All the projects in **Table 7**, except the National Air Toxics Trends Site (NATTS) and 2016 DERA locomotive project, have been completed within the contractual timeline, and the NATTS project and the 2016 DERA locomotive project are proceeding on schedule. The Air District continues to meet all the reporting requirements under its agreement with the EPA including the submittal of interim reports showing progress toward completion of the project.

The Air District is committed to providing all necessary documentation of budgets, expenditures, and technical data to the EPA as required and continues to report out the various data to the EPA as requested or stipulated in the agreements listed above. As part of its compliance with the requirements of these grants the Air District provides the EPA with the following materials on an annual basis:

- Technical reporting required by the grants themselves including but not limited to air quality monitoring data, Title V permit data, emissions inventory information, notice of violation information, strategic air plans, etc.
- Required financial status reporting
- Lobbying and litigation certifications for grants and cooperative agreements

All these documents provide an ongoing update to the EPA on the state of the Bay Area air shed and the expenditure of grant funds.

C. ORGANIZATIONAL EXPERIENCE

Staff Expertise and Qualifications - The Air District has operated incentive programs for the replacement and retrofit of heavy-duty trucks, buses, marine, locomotive, agriculture, and off-road equipment since 1992. The Air District awarded over \$415 million in external grants between 2010 and 2016. A summary of the Air District's incentive programs is shown in **Table 8**.

Table 8 – Air District Experience Implementing Incentive Programs (2010-2016)

Program	# of Projects	NOx (tons)	PM (tons)
Carl Moyer Program/ MSIF	1,160	3,674	129.77
Goods Movement Program	2,009	9,843	172.31
TFCA Regional Fund	245	358	285.80
Vehicle Buyback Program	25,577	1,318	11.67
TFCA Program Manager	350	308	189.00
Totals	29,341	15,501	789

Many of these grants operate on a two-year disbursement mandate from the California State Legislature with stringent reporting, record-keeping, oversight, accounting, and inspection requirements included in the California Health and Safety Code. These projects are primarily aimed at the reduction of DPM, NOx, reactive organic gases (ROG), and CO₂ and have been highly successful in their goals. Additionally, a majority of the staff currently employed by the Air District in its Strategic Incentives Division have been through at least four administrative cycles of these grant programs. Each of these funding programs necessitated the programming of up to \$140 million. In order to effectively and accountably administer these funds, the Air District has established a highly-qualified, motivated, and results-oriented team that are more than capable of administering the federal program dollars in the timeframe allotted.

The Air District has extensive experience working on projects that reduce locomotive emissions in the Bay Area. As part of the incentive programs described above, the Air District has awarded more than \$32 million to locomotive projects operating in the San Francisco Bay Area over the past 20 years. These projects involved 52 locomotives from Class I, Class III, and passenger railroads, including: Richmond Pacific Railroad, UP, BNSF, Amtrak, Caltrans, Caltrain, Napa Valley Wine Train, CA Northern Railroad, Altamont Corridor Express, and the Port of San Francisco. The technologies funded include engine remanufacture kits, engine replacements with higher emissions tiers, AESS/idle-reduction devices, locomotive replacements with cleaner engines, wayside power electrification infrastructure, rail line electrification, and Tier 4 locomotive retrofit technology demonstration projects. The Air District has also allocated over \$11 million in Proposition 1B funding for Tier 4 locomotive replacement projects.

D. STAFF AND RESOURCES

As part of this proposal, the Air District is proposing to dedicate sufficient staff resources to prepare a contract with sub-awardee, OGRE, conduct pre- and post-inspections of the locomotive, review invoices, prepare quarterly and final reports, and make payments under this program. These individuals, identified in the budget below, will also be tasked for the final quarter of the project to complete any outstanding payments and ensure record-keeping is complete and quality control of information received following equipment dispersal is of the highest standard. The Principal Environmental Planner will manage the daily monitoring of the project and prepare draft reports and schedule meetings/conference calls with its partners and the EPA liaison. The Manager will review draft documents before they are finalized and participate in meetings as necessary. The Director will review the financial and programmatic objectives of the project to ensure they meet our contractual requirements. The Deputy Air Pollution Control Officer, Executive Secretary, and the Executive Director will present the project to the Air District's Board of Directors and enter into the contract with the EPA and the Air District's subcontractors. Ongoing record-keeping for the project will be the responsibility of the Air District and will be funded through its general fund.

SECTION 9. BUDGET NARRATIVE AND DETAIL

A. EXPENDITURE OF AWARDED GRANT FUNDS

The Air District will ensure that awarded grant funds will be expended in a timely and efficient manner using well established practices that the Air District applies to all the projects it manages. At the onset of the project, the Air District will work with its partners and vendors to develop a timeline for each phase of the project that will be linked to projected budget expenditures. In advance of the quarterly reports the Air District will notify its partners to prepare any invoices that can be included in the quarterly report to the EPA and provide any explanations for invoices that vary from the originally scheduled expenditures. This information will be provided in submission to the EPA on Form SF 425, Federal Financial Report. The quarterly reports

to the EPA will request repayment of invoices received during the previous quarter and provide a discussion of any variances and necessary remediation to bring the project back on schedule.

B. BUDGET NARRATIVE

The Air District is requesting \$639,670 in CDFAP funding to support this project. The project will be evaluated for Air District grant funding when the next Carl Moyer Program solicitation cycle opens for new projects – tentatively scheduled to open Summer 2017 – if the project is awarded CDFAP funds. The Air District administers these funds which are provided to the Air District by ARB in accordance with ARB guidelines. Of the EPA funding, 97.7% of the funding will be used for the purchase of the locomotive with the remaining funds being used for the Air District administration of the project, including personnel costs and fringe benefits. The Air District administrative costs for this project are within the limits of typical Air District administered projects. The private funding for this project will be provided by the railroad owner/operator.

C. BUDGET TABLE

Total Project Budget: Table 9 shows the Air District's budget proposal for the proposed \$639,670 EPA-funded project.

Table 9 – Administrative Budget for proposed EPA- CDFAP funded project					
Category			EPA Funding	Cost share/ State match	Leverage/ Private Funds
<u>Air District Personnel</u>					
# & Title	Annual Salary	% of Year			
1 Exec. Director	\$281,764	0.10	-	\$270	-
1 Exec. Secretary	\$97,859	0.34	-	\$328	-
1 Deputy Air Pollution Control Officer	\$199,567	0.19	-	\$382	-
1 Division Director	\$179,818	1.20	-	\$2,154	-
1 Manager	\$148,919	15.81	\$4,945	\$18,602	-
1 Principal Environmental Planner	\$124,896	17.25	\$4,955	\$16,589	-
<u>Total Personnel</u>			\$9,900	\$38,326	-
<u>Fringe Benefits @ 48.18% of Salary</u>					
Pension Benefits, FICA replacement benefits, Group Insurance Benefits, Employee Transportation Subsidy, Workers Compensation			\$4,770	\$18,466	-
<u>Travel</u>			-	-	-
<u>Equipment - Computer Hardware and Software</u>			-	-	-
<u>Supplies</u>			-	-	-
<u>Contractual</u>			-	-	-
<u>Construction</u>			-	-	-
<u>Other</u>					
One switcher locomotive replacement			\$625,000 *	TBD **	\$1,875,000
<u>Total Direct Charges</u>			\$639,670	\$56,792	\$1,875,000
<u>Indirect charges @ 59.02% of salary</u>			-	-	-
<u>Total Funding</u>			\$639,670	\$56,792	\$1,875,000
Total Project Cost			\$2,571,462		

* Up to \$625,000 (max 25% of the locomotive cost) of the EPA funding will be passed through the Air District to OGRE (sub-awardee) to purchase the locomotive.

** The Air District will evaluate the project for possible additional project co-funding from the Carl Moyer Program during the next solicitation, if this project is awarded CDFAP funds.

SECTION 10. APPLICANT FLEET DESCRIPTION

Attachment 3 contains a detailed description of the fleet involved in this project.

ATTACHMENTS

- Attachment 1 – OGRE EPA EJSCREEN Analysis
- Attachment 2 – Letters of commitment/support
- Attachment 3 – Applicant fleet description
- Attachment 4 – 2013 Air District public engagement plan
- Attachment 5 – Air District commitment letter
- Attachment 6 – Locomotive technology description